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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/805,340	03/12/2001	Francis Chi Moon Lau	016050-001	3740

7590 06/29/2004

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EXAMINER

NGUYEN, THANH T

ART UNIT PAPER NUMBER

2144

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/805,340	Applicant(s) LAU ET AL.	
	Examiner Tammy T Nguyen	Art Unit 2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>June 13, 2001</u> . | 6) <input type="checkbox"/> Other: _____ |



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Detailed Office Action

1. This action is in response to the application 09/805340 filed. **March 12, 2001**
2. Claims 1-23 have been examined.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- NDT
4. Claims ~~1-23~~ ¹⁻²³ are rejected under 35 U.S.C. 102(e) as being anticipated by Karger et al.

(USPN 6,553,420 – Date of Patent: April 22, 2003, herein referred to as “Karger”).

5. As to claim 1, Karger teaches the invention as claimed, including a server-side caching method for use with a server cluster including at least one central storage device and a plurality of servers having respective cache storage devices, the method comprising the

steps of: receiving a client request for a data object from a client device with one of the servers (Fig.4B, col.1, lines 55-60); determining whether the data object is being cached by the server that received the client request (col.2, lines 55-62); determining whether a server that did not receive the client request is caching the data object in response to a determination that the server that received the client request is not caching the data object (col.2, lines 55-61); obtaining a copy of the data object from the cache storage device of a server that did not receive the client request in response to a determination that the server that received the client request is not caching the data object and a determination that the data object is cached in a server that did not receive the client request and transmitting the data object to the client device (col.2, lines 60-65).

6. As to claim 2, Karger teaches the invention as claimed, wherein the step of transmitting the data object to the client device comprises: transmitting the data object from the server that received the client request to the client device in response to a determination that the data object is being cached by the server that received the client request (col.2, lines 60-65).
7. As to claim 3, Karger teaches the invention as claimed, wherein the step of transmitting the data object to the client device comprises: sending the copy of the data object from the cache storage device of a server that did not receive the client request to the server that received the client request; and sending the copy of the data object from the server that received the client request to the client device (col.2, lines 55-61).

8. As to claim 4, Karger teaches the invention as claimed, further comprising the step of:
sending at least one of data object request rate information and a data object replication recommendation to the server that received the client request with the copy of the data object (col.1, lines 55-60).
9. As to claim 5, Karger teaches the invention as claimed, wherein the step of transmitting the data object to the client device comprises: sending a copy of the data object from the central storage device to the server that received the client request in response to a determination that the server that received the client request is not caching the data object and a determination that the data object is not cached in a server that did not (col.2, lines 60-67).
10. As to claim 6, Karger teaches the invention as claimed, further comprising the step of:
caching the copy of the data object in the cache storage device of the server that received the client request (col.1, lines 24-35).
11. As to claim 7, Karger teaches the invention as claimed, further comprising the step of:
maintaining a cache status table including a list of data objects stored in the respective cache storage devices of the plurality of servers (Fig.14 plurality servers).

12. As to claim 8, Karger teaches the invention as claimed, wherein the step of determining whether a server that did not receive the client request is caching the data object comprises: querying the cache status table (col.14, lines 5-15).
13. As to claim 9, Karger teaches the invention as claimed, wherein the step of transmitting the data object to the client device comprises: sending a copy of the data object from the central storage device to the server that received the client request in response to a determination that the server that received the client request is not caching the data object and a determination that the data object is not listed in cache status table (col.2, lines 60-67).
14. As to claim 10, Karger teaches the invention as claimed, further comprising the steps of: caching the data object in the cache storage device of the server that received the client request'; and updating the cache status table to reflect that a copy of the data object has been cached in the server that received the client request (col.1, lines 24-35).
15. As to claim 11, Karger teaches the invention as claimed, wherein the step of obtaining a copy of the data object from the cache storage device of a server that did not receive the client request comprises: obtaining a copy of the data object from the cache storage device of a server is operating below a predetermined load threshold (col.6, lines 30-60).
16. As to claim 12, Karger teaches the invention as claimed, including a server system for use with a plurality of client devices, comprising a local area network adapted to be

connected to a wide area network (col.14, lines 40-50); a plurality of servers connected to the local area network and having respective cache storage devices adapted to cache data objects (col.19, lines 30-45); and a cache load server process running on at least one of the servers that maintains a list of data objects cached in the cache storage devices (col.2, lines 41-52).

17. As to claim 13, Karger teaches the invention as claimed, wherein each of the servers runs a load daemon process that monitors server loading and transmits server loading information to the cache load server process (col.8, lines 5-30).

18. As to claim 14, Karger teaches the invention as claimed, wherein each of the servers runs a web server process that receives requests for data objects from client devices and queries the cache load server process to determine whether another server is caching a requested data object in response to a determination that the associated server is not caching the requested data object (col.2, lines 50-67).

19. As to claim 15, Karger teaches the invention as claimed, wherein the means for cooperatively caching data objects includes means for determining whether a server that did not receive the client request and is caching the data object is operating below a predetermined loading threshold (col.8, lines 5-20).

20. As to claim 16, Karger teaches the invention as claimed, further comprising: a dispatcher adapted to connect the local area network to the wide area network (Fig.12 wan).
21. As to claim 17, Ali teaches the invention as claimed, further comprising: at least one central storage device connected to the local area network (Fig.12 LAN).
22. As to claim 18, Karger teaches the invention as claimed, including a server system for use with a plurality of client devices comprising; a local area network adapted to be connected to a wide area network (Fig.10, and fig.12 servers connect to network); a plurality of servers connected to the local area network and having respective cache storage devices adapted to cache data objects (col.19, lines 30-45); and means for cooperatively caching data objects within the cache storage devices such that cached data objects may be shared by the plurality of servers (col.2, lines 41-52).
23. As to claim 19, Karger teaches the invention as claimed, wherein each of the servers includes means for receiving a client request for a data object from a client device and means for determining whether the data object is being cached locally (col.7, line 60 to col.8, line 5).
24. As to claim 20, Karger teaches the invention as claimed, wherein the means for cooperatively caching data objects includes means for determining whether a server that did not receive the client request is caching the data object (col.7, line 60 to col.8, line 5).

Art Unit: 2144

25. As to claim 21, Karger teaches the invention as claimed, wherein the means for cooperatively caching data objects includes means for determining whether a server that did not receive the client request and is caching the data object is operating below a predetermined loading threshold (col.8, lines 5-20).

26. As to claim 22, Karger teaches the invention as claimed, further comprising: a dispatcher adapted to connect the local area network to the wide area network (Fig.12 WAN).

27. As to claim 23, Karger teaches the invention as claimed, further comprising: at least one central storage device connected to the local area network (Fig.12, Lan).

Conclusion

28. Any inquiries concerning this communication or earlier communications from the examiner should be directed to **Tammy T. Nguyen** who may be reached via telephone at **(703) 305-7982**. The examiner can normally be reached Monday through Friday between 8:00 a.m. and 5:30 p.m. eastern standard time.

If you need to send the Examiner, a facsimile transmission regarding this instant application, please send it to **(703) 872-9306**. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Bill Cuchlinski, may be reached at **(703) 308-3873**.

TTN
April 14, 2004
6/28/04

MARC D. THOMPSON
MARC THOMPSON
PRIMARY EXAMINER